Air Resources Board



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ENFORCEMENT DIVISION

NOTICE OF VIOLATION FOR VOLKSWAGEN AG'S, VOLKSWAGEN GROUP OF AMERICA, INC.'S, VOLKSWAGEN GROUP OF AMERICA CHATTANOOGA OPERATIONS, LLC'S, AND AUDI AG'S DIESEL 2.0L TDI ENGINE VEHICLES

To

Volkswagen Group of America, Inc. 2200 Ferdinand Porsche Drive Herndon, VA 20171

As Responsible Certification Filing Agent for Volkswagen AG, Volkswagen Group of America, Inc., Volkswagen Group of America Chattanooga Operations, LLC, and Audi AG

Date of Issue

January 12, 2016

Issued By

Dr. Todd P. Sax, Chief Enforcement Division California Air Resources Board

Background

This Notice of Violation (NOV) is issued to the Volkswagen Group of America, Inc., because Volkswagen AG, Volkswagen Group of America, Inc., Volkswagen Group of America Chattanooga Operations, LLC, and Audi AG identified Volkswagen Group of America, Inc. as the agent responsible for all certification applications to the California Air Resources Board (CARB). These entities are referred to collectively as VW.

Nitrogen oxide (NOx) emissions in California are a key contributor to ambient ozone and fine particulate matter pollution which is associated with premature death, increased hospitalizations, emergency room visits due to exacerbation of chronic heart and lung diseases, and other serious health impacts. A major contributor to NOx emissions is combustion from diesel engines and vehicles.

In 2012, CARB initiated a testing campaign at its Haagen-Smit Laboratory focused on light-duty diesel vehicles, and also agreed to provide in-kind support to the International Council on Clean Transportation (ICCT) in its studies of light-duty diesel vehicles. In 2014, the ICCT and West Virginia University (WVU) documented higher levels of NOx emissions from a 2012 model year (MY) diesel VW Jetta and MY 2013 diesel VW Passat during in-use, real world testing when compared to results obtained through the controlled, laboratory testing on CARB's chassis dynamometers.¹

As a result of these studies, CARB initiated a focused investigation of VW diesel vehicles equipped with 2.0L engines. CARB staff observed and confirmed similar high-NOx behavior during driving cycles. After CARB informed VW of the high-NOx behavior, VW conducted its own emissions testing to replicate the CARB, ICCT, and WVU testing results, and VW agreed that there was a problem.

To address the problem, in 2014 through early 2015, VW carried out voluntary recalls of Generations (GEN) 1 and 2 light-duty diesel-powered passenger vehicles. The fixes VW implemented were primarily related to soot loading on the diesel particulate filter (DPF) and the cold-weather turbocharger protection, but VW also stated it added fixes to the diesel exhaust fluid (DEF) dosing strategy to address high in-use NOx emissions. Although CARB approved the voluntary recall plan for the soot loading and turbocharger protection issues, it did not approve the recall as it related to the NOx issue. Prior to beginning its voluntary recalls, VW stated that it understood and agreed to CARB's requirement that secondary recalls would be required if CARB later determined that the NOx problem was not adequately addressed. In early 2015, after VW had initiated its proposed voluntary recalls to correct the nonconformities, VW formally submitted GEN 1 voluntary recall plans "23N4/L5" and "23O6/D8" to CARB detailing the proposed fixes VW had implemented, but VW never formally submitted a GEN 2 recall plan to CARB for approval.

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¹ "In-Use Emissions Testing of Light-Duty Diesel Vehicles in the United States," Center for Alternative Fuels, Engines, and Emissions, West Virginia University, as prepared for the International Council on Clean Transportation, May 15, 2014.

VW commenced the voluntary recalls even though it knew of the existence of the previously undisclosed Auxiliary Emission Control Devices (AECDs) and defeat devices, even though it knew that the vehicles did not meet emission standards or test procedures, and even though it knew that its proposed fixes would not address any of these nonconformities. VW continued selling, offering and delivering new motor vehicles that did not meet the emission standards or test procedures and employed the undisclosed AECDs and defeat devices. VW failed to take corrective action.

CARB conducted confirmatory testing to determine the effectiveness of the GEN 2 recalibration recall. The results demonstrated that affected vehicles remained noncompliant on some certification testing cycles, even after VW's optimized software recalibration was installed. CARB technical staff then met with VW over several months, during numerous meetings, trying to get answers for the excess NOx emissions that were being observed, but never received a satisfactory explanation.

VW subsequently admitted in writing on September 3, 2015 that it deliberately designed a second map (defeat device) to turn on when the vehicle sensed it was functioning under certain conditions monitored by the vehicle's computer. While operating under the second map in normal driving conditions, the emission control systems did not operate properly.

On September 18, 2015, CARB issued an in-use compliance letter² to VW related to the defeat devices, and the United States Environmental Protection Agency (EPA) issued a Notice of Violation letter³ to VW making a similar finding of the presence of illegal defeat devices in the vehicles listed in the table below. Since that date, VW has been working with both CARB and EPA to create a plan to remove the defeat devices from all vehicles sold in the United States and bring them into compliance with State and federal law, including emission standards and on-board diagnostic (OBD) system requirements. On December 1, 2015, CARB received VW's recall plan for the GEN 3 vehicles. On December 14, 2015, CARB received VW's recall plan for GEN 1 and GEN 2 vehicles.

This NOV issued by CARB outlines VW's violations of State law, which have caused substantial excess, illegal, and on-going emissions and harm that have impacted, and continue to impact, public health and the environment in California. Through the enforcement process, CARB will seek to ensure that VW brings the vehicles into full compliance with State emissions standards and mitigates past, current, and future harm to the environment. CARB will assess penalties and achieve other remedies as allowed by law.

³ Letter from Phillip A. Brooks, EPA, Director of Air Enforcement, Office of Civil Enforcement to Volkswagen September 18, 2015.

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² Letter from Annette Hebert, CARB, Chief, Emissions Compliance, Automotive Regulations, and Science Division, to Volkswagen Reference No. IUC-2015-007, September 18, 2015.

VW's violations of State law are described in Section A, below. Definitions of some terms used appear in Section B. Some of the pertinent California laws and California and federal regulations applicable to these violations are provided in Section C. As the investigation is continuing and additional facts are being discovered, CARB reserves the right to amend or supplement this NOV.

A. Violations

The specific VW 2.0L light-duty diesel-powered vehicles that are the subject of this NOV appear in the table below. Approximately 75,688 California vehicles do not conform to State law.

System Generation	Model Year	ARB Executive Order	Test Group	Models
GEN 1	2009	A-007-0271	9VWXV02.035N	Jetta, Jetta Sportwagen
GEN 1	2009	A-007-0279	9VWXV02.0U5N	Jetta, Jetta Sportwagen
GEN 1	2010	A-007-0285	AVWXV02.0U5N	Jetta, Jetta Sportwagen, Golf, A3*
GEN 1	2011	A-007-0292	BVWXV02.0U5N	Jetta, Jetta Sportwagen, Golf, A3*
GEN 1	2012	A-007-0305	CVWXV02.0U5N	Jetta, Jetta Sportwagen, Golf, A3*
GEN 1	2013	A-007-0315	DVWXV02.0U5N	Jetta, Jetta Sportwagen, Golf, A3*, Beetle, Beetle Convertible
GEN 1	2014	A-007-0323	EVWXV02.0U5N	Jetta, Jetta Sportwagen, Golf, Beetle, Beetle Convertible
GEN 2	2012	A-007-0301	CVWXV02.0U4S	Passat
GEN 2	2013	A-007-0311	DVWXV02.0U4S	Passat
GEN 2	2014	A-007-0327	EVWXV02.0U4S	Passat
GEN 3	2015	A-413-0031-2	FVGAV02.0VAL	Passat, Beetle, Beetle Convertible, Jetta, Golf, Golf Sportwagen, A3*

^{*} Audi AG vehicles

1. Invalid certification applications (e.g., undisclosed AECDs)

None of the vehicles described above would have been certified, but for VW's submission of incomplete and/or fraudulent certification applications to CARB by, among other things, failing to disclose the previously undisclosed AECDs in its vehicles to CARB and failing to meet OBD requirements.

For MY 2001 through 2014 vehicles, California Code of Regulations, title 13, section 1961(d) incorporates by reference the certification requirements and test procedures in

the "California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles" (2001-2014 Test Procedures). The 2001-2014 Test Procedures require manufacturers to, among other things, list all AECDs installed on their vehicles. including a justification for each AECD, the parameters they sense and control, a detailed justification of each AECD which results in a reduction in effectiveness of the emission control system, and rationale for why the AECD is not a defeat device (40 C.F.R. § 86.1844-01). VW acknowledged that it employed previously undisclosed AECDs in the GEN 1 and GEN 2 vehicles listed in the table above. In its applications for certification for those vehicles. VW failed to disclose all AECDs used in these vehicles, and failed to provide the required information for those previously undisclosed AECDs. In addition, as described in paragraph 9 below, but for VW's use of previously undisclosed AECDs and defeat devices, some demonstrations of the vehicles for which VW submitted its certification applications would have failed to comply with the monitoring and demonstration requirements of the OBD regulations. VW likely could not have been eligible for deficiencies for this OBD system design and certifications would not have been issued.

For MY 2015 and subsequent model year vehicles, California Code of Regulations, title 13, section 1961.2(d) incorporates by reference the certification requirements and test procedures in the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" (2015 Test Procedures). The 2015 Test Procedures require manufacturers to, among other things, list all AECDs installed on their vehicles, including a justification for each AECD, and rationale for why the AECD is not a defeat device. VW acknowledged that it employed previously undisclosed AECDs in the GEN 3 vehicles listed in the table above. In its applications for certification, VW failed to disclose all AECDs used in these vehicles, and failed to provide the required information for those previously undisclosed AECDs. In addition, as described in paragraph 9 below, but for VW's use of previously undisclosed AECDs and defeat devices, some demonstrations of the vehicles for which VW submitted its certification applications would have failed to comply with the monitoring and demonstration requirements of the OBD regulations. VW likely could not have been eligible for deficiencies for this OBD system design and certifications would not have been issued.

2. Use of Defeat Devices

All of the vehicles described in the table above were designed and equipped with defeat devices.

For MY 2001 through 2014 vehicles, California Code of Regulations, title 13, section 1961(d), which incorporates by reference the 2001-2014 Test Procedures, which in turn

incorporates Code of Federal Regulations, Title 40, sections 86.1809-01, 86-1809-10, and 86.1809-12, prohibits the use of a defeat device in any new light-duty vehicle and certain other vehicles. VW acknowledged that it employed defeat devices in the GEN 1 and GEN 2 vehicles listed in the table above.

For MY 2015 and subsequent model year vehicles, California Code of Regulations, title 13, section 1961.2(d), which incorporates by reference the 2015 Test Procedures, which in turn incorporates Code of Federal Regulations, Title 40, sections 86.1809-01, 86-1809-10, and 86-1809-12, prohibits the use of a defeat device in any new light duty vehicle and certain other vehicles. VW acknowledged that it employed defeat devices in the GEN 3 vehicles listed in the table above.

3. Importation, delivery, purchase, acquisition, or receipt of uncertified vehicles

Health and Safety Code section 43151 prohibits any person who operates a place of business in California from, among other things, importing, delivering, purchasing, acquiring, or receiving a new motor vehicle for use, registration, or resale in this state unless such vehicle has been certified pursuant to Chapter 2, Part 5, Division 26 of the Health and Safety Code. In addition, no person may assist in such action. In its MY 2009-2015 applications for certification to CARB, VW both failed to disclose certain AECDs and used defeat devices (as discussed in violations 1 and 2, above). Nevertheless, VW imported, delivered, purchased, acquired, and/or received approximately 75,688 new vehicles listed in the table above that contained previously undisclosed AECDs and/or defeat devices and those vehicles did not match the vehicles that were certified by CARB. Therefore, VW imported, delivered, purchased, acquired, and/or received approximately 75,688 new vehicles listed in the table above that were not certified in accordance with California requirements and/or assisted in such acts.

4. <u>Intentional or negligent importation, delivery, purchase, receipt or acquisition of uncertified vehicles</u>

Health and Safety Code section 43152 prohibits any person who is engaged in California in the business of selling new vehicles from intentionally or negligently importing, delivering, purchasing, receiving or otherwise acquiring a new vehicle that has been not been certified pursuant to Chapter 2, Part 5, Division 26 of the Health and Safety Code, or assisting in such acts. VW acknowledged that it knew of the existence of the previously undisclosed AECDs and defeat devices in its vehicles, listed in the table above. VW also acknowledged that it installed the previously undisclosed AECDs and defeat devices in those vehicles for the purpose of obtaining certification because VW knew that without them, those vehicles could not pass emissions tests and obtain certification in California or in the United States. Nevertheless, VW intentionally or negligently imported, delivered, purchased, received, or acquired approximately 75,688 new vehicles that are listed in the table above that contained previously undisclosed

AECDs and/or defeat devices and those vehicles did not match the vehicles that were certified by CARB. Therefore, VW intentionally or negligently imported, delivered, purchased, received, or acquired approximately 75,688 new vehicles listed in the table above that were not certified in accordance with California requirements, and/or assisted in such acts.

5. Intentional or negligent sales or offers to sell uncertified vehicles

Health and Safety Code section 43153 prohibits any person who is engaged in California in the business of selling vehicles from intentionally or negligently selling or offering to sell a new vehicle that not been certified pursuant to Chapter 2, Part 5, Division 26 of the Health and Safety Code. VW acknowledged that it knew of the existence of the previously undisclosed AECDs and defeat devices in its vehicles, listed in the table above. VW also acknowledged that it installed the previously undisclosed AECDs and defeat devices in those vehicles for the purpose of obtaining certification because VW knew that without them, those vehicles could not pass emissions tests and obtain certification. Nevertheless, VW intentionally or negligently sold or offered to sell approximately 75,688 new vehicles that are listed in the table above that contained previously undisclosed AECDs and/or defeat devices and those vehicles did not match the vehicles that were certified by CARB. Therefore, VW intentionally or negligently sold or offered to sell approximately 75,688 new vehicles that are listed in the table above that were not certified in accordance with California requirements, and/or assisted in such acts.

6. Sale of vehicles that do not meet emission standards

Health and Safety Code section 43211 prohibits any manufacturer from selling, attempting to sell, or causing to be offered for sale a new vehicle that fails to meet emission standards. VW sold, attempted to sell, or caused to be offered for sale approximately 75,688 new vehicles that are listed in the table above that did not meet emission standards.

7. <u>Failure to comply with the emission standards or test procedures – Durability Data</u> Vehicle

Health and Safety Code section 43212 requires manufacturers and distributors to comply with the emission standards and test procedures adopted by CARB. VW violated the test procedures, as described below.

For MY 2001 through 2014 vehicles, California Code of Regulations, title 13, section 1961(d), which incorporates by reference the 2001-2014 Test Procedures, requires manufacturers to conduct a durability demonstration for each durability group (40 C.F.R. § 86.1823-08). One durability demonstration is required for each durability group, and

the configuration of the durability data vehicle (DDV) is determined according to the provisions of § 86.1822–01 (40 C.F.R. § 86.1829-01(a)). Section 86.1822-01 requires the manufacturer to select the DDV configuration which is expected to generate the highest level of exhaust emission deterioration as the DDV for each durability group (40 C.F.R. § 86.1822-01). VW acknowledged that it employed defeat devices in the GEN 1 and GEN 2 vehicles listed in the table above. These defeat devices changed the vehicle configuration such that the DDVs were not of a "configuration which is expected to generate the highest level of exhaust emission deterioration."

For MY 2015 and subsequent model year vehicles, California Code of Regulations, title 13, section 1961.2(d) incorporates by reference the 2015 Test Procedures, which incorporate the same regulatory requirements that apply to the MY 2001 through 2014 vehicles, described above. VW acknowledged that it employed defeat devices in the GEN 3 vehicles listed in the table above. These defeat devices changed the vehicle configuration such that the DDVs were not of a "configuration which is expected to generate the highest level of exhaust emission deterioration."

8. <u>Failure to comply with the emission standards or test procedures – Emissions Data Vehicle (EDV)</u>

Health and Safety Code section 43212 requires manufacturers and distributors to comply with the emission standards and test procedures adopted by CARB. VW violated the test procedures, as described below.

For MY 2001 through 2014 vehicles, California Code of Regulations, title 13, section 1961(d), which incorporates by reference the 2001-2014 Test Procedures, requires manufacturers to conduct exhaust emissions testing for each test group (40 C.F.R. § 86.1829-15(b)). Within each test group, the manufacturer must select the emissions data vehicle (EDV) configuration which is expected to be worst-case for exhaust emission compliance on candidate in-use vehicles (40 C.F.R. § 86.1828-01(a)). VW acknowledged that it employed defeat devices in the GEN 1 and GEN 2 vehicles listed in the table above. These defeat devices changed the vehicle configuration such that the EDVs were not of a configuration which is "expected to be worst-case for exhaust emission."

For MY 2015 and subsequent model year vehicles, California Code of Regulations, title 13, section 1961.2(d) incorporates by reference the 2015 Test Procedures, which incorporate the same regulatory requirements that apply to the MY 2001 through 2014 vehicles, described above. VW acknowledged that it employed defeat devices in the GEN 3 vehicles listed in the table above. These defeat devices changed the vehicle configuration such that the EDVs were not of a "configuration which is expected to generate the highest level of exhaust emission deterioration."

9. Failure to comply with onboard diagnostic (OBD) system requirements

The purpose of OBD system requirements is to "reduce motor vehicle and motor vehicle engine emissions by establishing emission standards and other requirements for onboard diagnostic systems... The use and operation of OBD systems will ensure reductions in in-use motor vehicle and motor vehicle engine emissions through improvements of emission system durability and performance" (Cal. Code Regs., tit. 13, § 1968.2, subd. (a)). For MY 2009 through 2015 vehicles, California Code of Regulations, title 13, section 1968.2, subdivisions (a) & (f) required manufacturers to implement OBD systems. These OBD systems must have: monitored emission systems in-use; detected malfunctions of the monitored emission systems as reported to ARB in the manufacturer's certification application; stored pending or confirmed fault codes; and illuminated a malfunction indicator light (MIL) when and after emissions exceed levels specified in the applicable requirements. Additionally, in order to obtain certification, California Code of Regulations, title 13, section 1968.2, subdivision (h) required, and continues to require, manufacturers to submit emission test data from one or more durability demonstration test vehicles for single fault testing based on the applicable test with the specified components/systems set at their malfunction criteria limits, as determined by the manufacturer for meeting the requirements of section (f).

VW's use of defeat devices in MY 2009 though MY 2015 vehicles violated the OBD requirements and completely undermined their purpose. VW's certification applications represented that the vehicles for which the applications were submitted did one of two things: 1) complied with these malfunction criteria and demonstration requirements for the emission systems described in each vehicle's respective certification application; or 2) met the requirements to be eligible for granting of deficiencies per California Code of Regulations, title 13, section 1968.2, subdivision (k) in cases where these malfunction criteria and demonstration requirements were not fully met. The vehicles with the defeat devices and other nonconformities VW designed into them failed to wholly meet the OBD system requirements. The vehicles, as designed, avoid OBD system detection at the required emission threshold exceedances. Further, the defeat devices changed the vehicle emission levels when demonstration tests were conducted, enabling VW to show compliance with the OBD requirements or eligibility for granting of deficiencies during these demonstration tests. Thus, but for VW's use of previously undisclosed AECDs and defeat devices, some demonstrations of the vehicles for which VW submitted its certification applications would have failed to comply with the monitoring and demonstration requirements of the OBD regulations. VW likely could not have been eliqible for deficiencies for this OBD system design and certifications would not have been issued.

10. Invalid Vehicle Emission Control Information Label (compliance statement)

For MY 2001 through MY 2014 vehicles, California Code of Regulations, title 13, section 1965 requires emission control labels as specified in the 2001-2014 Test Procedures. The 2001-2014 Test Procedures require a statement indicating that the vehicle conforms to applicable California regulations. However, placement of such a statement

on vehicles which, in fact, do not comply with all applicable California regulations is prohibited. The GEN 1 and GEN 2 vehicles listed in the table above have such a statement, but do not in fact comply with applicable California regulations, including emission standards and application requirements.

For MY 2015 vehicles, California Code of Regulations, title 13, section 1965 requires emission control labels as specified in the 2015 Test Procedures. The 2015 Test Procedures require a statement indicating that the vehicle conforms to applicable California regulations. However, placement of such a statement on vehicles which, in fact, do not comply with all applicable California regulations is prohibited. The GEN 3 vehicles listed in the table above have such a statement, but do not in fact comply with applicable California regulations, including emission standards and application requirements.

11. Invalid smog rating on the Smog Index Label

For MY 2008 and MY 2009 vehicles, California Code of Regulations, title 13, section 1961(d), which incorporates by reference the 2001-2014 Test Procedures, requires smog index labeling to conform with the requirements in the "California Smog Index Label Specifications for 2004 through 2009 Model Year Passenger Cars and Light-Duty Trucks" (2004-2009 Smog Label Specifications). The 2004-2009 Smog Label Specifications prohibit the sale of any 2004-2009 vehicles with an incorrect smog index label. VW's use of the previously undisclosed AECDs and defeat devices generated emissions in excess of what VW claimed. VW affixed labels to its GEN 1 vehicles with incorrect smog indices that were based on emissions from the vehicles while the previously undisclosed AECDs and defeat devices were activated.

For MY 2009 through MY 2015 vehicles, California Code of Regulations, title 13, section 1965 requires smog index labeling to conform with the requirements in the "California Environmental Performance Label Specifications for 2009 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles" (2009 Smog Label Specifications). The 2009 Smog Label Specifications prohibit the sale of any 2009 and subsequent vehicles with an incorrect smog index label. VW's use of the previously undisclosed AECDs and defeat devices generated emissions in excess of what VW claimed. VW affixed labels to its GEN 1, GEN 2, and GEN 3 vehicles with incorrect smog indices that were based on emissions of the vehicles while the previously undisclosed AECDs and defeat devices were activated.

12. <u>Sales</u>, offers, and deliveries of vehicles that violate emission standards or test procedures and the manufacturer has failed to correct

Health and Safety Code section 43105 prohibits the sales, offers or delivery for sale of a new vehicle that does not meet emission standards or test procedures and where the manufacturer has failed to take corrective action. In or around 2014-2015, VW commenced voluntary recalls of the vehicles listed in the table above. While these

recalls primarily related to the DPF and soot loading, VW also added fixes to the DEF dosing strategy. In or around March 2015, VW submitted voluntary recalls "23N4/L5" and "23O6/D8" plans to CARB. However, VW knew of the previously undisclosed AECDs and defeat devices on its vehicles listed in the table above, knew that the vehicles did not meet emission standards or test procedures, and knew that these voluntary recalls would not correct these or other nonconformities on the vehicles listed in the table above; therefore, VW failed to take corrective action. Nevertheless, VW continued selling, offering and delivering for sale new vehicles that did not meet the emission standards or test procedures and that employed the previously undisclosed AECDs and defeat devices.

13. Violation of emission warranty provisions

Health and Safety Code section 43205 requires manufacturers to warrant that their motor vehicles and motor vehicle engines meet certain requirements, including that they are designed, built, and equipped to conform to applicable emission standards; that they are free from defects that cause the vehicle or engine to fail to conform to applicable requirements; and that they are free from defects in emission related parts. California Code of Regulations, title 13, section 2037 also requires that manufacturers make certain warranty statements, including that the engines it manufactures are designed, built, and equipped so as to conform with all applicable regulations adopted by CARB; and are free from defects in materials and workmanship which cause the failure of a warranted part to be identical in all material respects to the part as described in the vehicle or engine manufacturer's application for certification.

VW submitted certification applications to CARB for its MY 2009 through MY 2015 2.0L diesel motor vehicles. VW made the aforementioned required warranties, and included warranty statements with each vehicle. However, VW designed, built, and equipped the MY 2009 through MY 2015 2.0L diesel motor vehicles with unlawful defeat devices, previously undisclosed AECDs, and other nonconformities, which caused NOx emissions to exceed State standards. VW's vehicle engines were not identical in many material respects to those described in its application for certification. Thus, VW violated the emission warranty provisions.

Other violations may be discovered by CARB during its ongoing investigation, and will also be addressed by the agency pursuant to State law. CARB reserves all rights to amend this NOV, or issue another, to add additional violations as they become known to CARB.

B. Definitions

<u>"CARB Executive Order"</u> means a legal document issued by CARB certifying vehicles for sale in California. (See "California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger

Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as amended December 6, 2012; also See "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as amended September 2, 2015.) Pertinent certification information is included in an Executive Order. Among the information included are the vehicle model year, engine and evaporative families, vehicle category, emission standard category, engine displacements, operating fuel, emission control systems, values of the exhaust and evaporative emission standards and certification emissions, and vehicle models.

"Auxiliary Emission Control Device" or "AECD" means any element of design that senses temperature, vehicle speed, engine revolutions per minute (RPM), transmission gear, manifold vacuum, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation any part of the emission control system. ("California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as amended December 6, 2012 and "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as amended September 2, 2015, which incorporate 40 CFR § 86-1803-01).

"Defeat Device" means any AECD that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use, unless: 1) Such conditions are substantially included in the Federal emission test procedure; 2) The need for the AECD is justified in terms of protecting the vehicle against damage or accident; 3) The AECD does not go beyond the requirements of engine starting; or 4) The AECD applies only for emergency vehicles and the need is justified in terms of preventing the vehicle from losing speed, torque, or power due to abnormal conditions of the emission control system, or in terms of preventing such abnormal conditions from occurring, during operation related to emergency response. ("California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as amended December 6, 2012 and "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as amended September 2, 2015, which incorporate 40 CFR § 86.1803-01).

<u>"GEN 1"</u> means Volkswagen's lean NOx trap (LNT) system, 2.0L Model Year 2009 through 2014, certified to LEVII LEV or ULEV (California) or Tier 2 Bin5 (federal) standards.

<u>"GEN 2"</u> means Volkswagen's selective catalytic reduction (SCR) system with SCR in under floor position, 2.0L Model Year 2012 through 2014, certified to LEVII ULEV (California) or Tier2 Bin5 (federal) standards.

<u>"GEN 3"</u> means Volkswagen's SCR system with SCR closed coupled to the engine, 2.0L Model Year 2015, certified or to be certified as per LEVIII ULEV 125 (California) or Tier2 Bin5 (federal) standards.

<u>"Test Group"</u> means the basic classification unit within a durability group used for the purpose of demonstrating compliance with exhaust emission standards in accordance with 40 CFR § 86.1841-01 (40 CFR § 86.1803-01).

C. Selected Legal Requirements Applicable to the Violations

For convenience, some of the applicable legal requirements appear below.

Health and Safety Code section 43105. Violation of standards or test procedures; Recall of vehicles

"No new motor vehicle, new motor vehicle engine, or motor vehicle with a new motor vehicle engine required pursuant to this part to meet the emission standards established pursuant to Section 43101 shall be sold to the ultimate purchaser, offered or delivered for sale to the ultimate purchaser, or registered in this state if the manufacturer has violated emission standards or test procedures and has failed to take corrective action, which may include recall of vehicles or engines, specified by the state board in accordance with regulations of the state board. If a manufacturer contests the necessity for, or the scope of, a recall of vehicles or engines ordered pursuant to this section and so advises the state board, the state board shall not require such recall unless it first affords the manufacturer the opportunity, at a public hearing, to present evidence in support of the manufacturer's objections. If a vehicle or engine is recalled pursuant to this section, the manufacturer shall make all necessary corrections specified by the state board without charge to the registered owner of the vehicle or vehicle with such engine or, at the manufacturer's election, reimburse the registered owner for the cost of making such necessary corrections.

The procedures for determining, and the facts constituting, compliance or failure of compliance shall be established by the state board."

Health and Safety Code section 43151. Acquisition of vehicle or engine outside of the state

"No person who is a resident of, or who operates an established place of business within, this state shall import, deliver, purchase, rent, lease, acquire, or receive a new motor vehicle, new motor vehicle engine, or motor vehicle with a new motor vehicle engine for use, registration, or resale in this state unless such motor vehicle engine or motor vehicle has been certified pursuant to this chapter. No person shall attempt or assist in any such action."

Health and Safety Code section 43152. Acquisition of non-certified vehicle or engine for sale or resale

"No person who is engaged in this state in the business of selling to an ultimate purchaser, or renting or leasing new motor vehicles or new motor vehicle engines, including, but not limited to, manufacturers, distributors, and dealers, shall intentionally or negligently import, deliver, purchase, receive, or otherwise acquire a new motor vehicle, new motor vehicle engine, or vehicle with a new motor vehicle engine which is intended for use primarily in this state, for sale or resale to an ultimate purchaser who is a resident of or doing business in this state, or for registration, leasing or rental in this state, which has not been certified pursuant to this chapter. No person shall attempt or assist in any such act."

Health and Safety Code section 43153. Sale or lease of non-certified vehicle or engine

"No person who is engaged in this state in the business of selling to an ultimate purchaser or renting or leasing new motor vehicles or new motor vehicle engines, including, but not limited to, manufacturers, distributors, and dealers, shall intentionally or negligently sell, or offer to sell, to an ultimate purchaser who is a resident of or doing business in this state, or lease, offer to lease, rent, or offer to rent, in this state any new motor vehicle, new motor vehicle engine, or vehicle with a new motor vehicle engine, which is intended primarily for use or for registration in this state, and which has not been certified pursuant to this chapter. No person shall attempt or assist in any such action."

Health and Safety Code section 43205. Warranty requirements for light and medium duty motor vehicles

- "(a) Commencing with the 1990 model-year, the manufacturer of each light-duty and medium-duty motor vehicle and motor vehicle engine shall warrant to the ultimate purchaser and each subsequent purchaser that the motor vehicle or motor vehicle engine meets all of the following requirements:
- (1) Is designed, built, and equipped so as to conform with the applicable emissions standards specified in this part.
- (2) Is free from defects in materials and workmanship which cause the motor vehicle or motor vehicle engine to fail to conform with applicable requirements specified in this part for three years or 50,000 miles, whichever first occurs.

(4) Is free from defects in materials and workmanship in emission related parts which, at the time of certification by the state board, are estimated by the manufacturer to cost individually more than three hundred dollars (\$300) to replace, for a period of seven years or 70,000 miles, whichever first occurs."

Health and Safety Code section 43211. Sale of noncomplying vehicle; Penalty

"No new motor vehicle shall be sold in California that does not meet the emission standards adopted by the state board, and any manufacturer who sells, attempts to sell, or causes to be offered for sale a new motor vehicle that fails to meet the applicable emission standards shall be subject to a civil penalty of five thousand dollars (\$5,000) for each such action. Any penalty recovered pursuant to this section shall be deposited into the general fund".

Health and Safety Code section 43212. Failure to comply with standards or procedures; Penalty

"Any manufacturer or distributor who does not comply with the emission standards or the test procedures adopted by the state board shall be subject to a civil penalty of fifty dollars (\$50) for each vehicle which does not comply with the standards or procedures and which is first sold in this state. The payment of such penalties to the state board shall be a condition to the further sale by such manufacturer or distributor of motor vehicles in this state. Any penalty recovered pursuant to this section shall be deposited into the Air Pollution Control Fund".

California Code of Regulations, title 13, section 1961. Exhaust Emission Standards and Test Procedures - 2004 through 2019 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles

"(d) Test Procedures. The certification requirements and test procedures for determining compliance with the emission standards in this section are set forth in the "California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as amended December 6, 2012, the "California Non-Methane Organic Gas Test Procedures," as amended December 6, 2012, which are incorporated herein by reference. In the case of hybrid electric vehicles and on-board fuel-fired heaters, the certification requirements and test procedures for determining compliance with the emission standards in this section are set forth in the "California Exhaust Emission Standards and Test Procedures for 2005 through 2008 Model Zero-Emission Vehicles, and 2001 through 2008 Model Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962, the "California Exhaust Emission Standards and Test Procedures for 2009 through 2017 Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the

Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962.1, and the "California Exhaust Emission Standards and Test Procedures for 2018 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes" incorporated by reference in section 1962.2."

California Code of Regulations, title 13, section 1961.2. Exhaust Emission Standards and Test Procedures - 2015 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.

"(d) Test Procedures. The certification requirements and test procedures for determining compliance with the emission standards in this section are set forth in the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as amended September 2, 2015, the "California Non-Methane Organic Gas Test Procedures" for 1993 through 2016 Model Year Vehicles," as amended September 2, 2015, and the "California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Year Vehicles," as adopted September 2, 2015, which are incorporated herein by reference. In the case of hybrid electric vehicles and onboard fuel-fired heaters, the certification requirements and test procedures for determining compliance with the emission standards in this section are set forth in the "California Exhaust Emission Standards and Test Procedures for 2009 through 2017 Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962.1, and the "California Exhaust" Emission Standards and Test Procedures for 2018 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962.2."

California Code of Regulations, title 13, section 1965. Emission Control, Smog Index, and Environmental Performance Labels - 1979 and Subsequent Model-Year Motor Vehicles.

In addition to all other requirements, emission control labels are required by the California certification procedures contained in the "California Motor Vehicle Emission Control and Smog Index Label Specifications for 1978 through 2003 Model Year Motorcycles, Light-, Medium- And Heavy-Duty Engines And Vehicles," adopted March 1, 1978, as last amended September 5, 2003, which is incorporated herein by reference, the "California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty trucks and Medium-Duty Vehicles,"

incorporated by reference in §1961(d), the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," incorporated by reference in §1961.2(d), the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles," incorporated by reference in §1956.8(b), the "California Interim Certification Procedures for 2004 and Subsequent Model Hybrid-Electric Vehicles, in the Urban Bus and Heavy-Duty Vehicle Classes," incorporated by reference in §1956.8(b) and (d), and the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines," incorporated by reference in §1956.8(d). Smog index labels for passenger cars and light-duty trucks shall conform to the "California Smog Index Label Specifications for 2004 Through 2009 Model Year Passenger Cars and Light-Duty Trucks," adopted September 5, 2003, as last amended May 2, 2008, which is incorporated herein by reference. Environmental Performance labels for passenger cars, light-duty trucks, and medium-duty passenger vehicles shall conform to the "California Environmental Performance Label Specifications for 2009 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles," adopted May 2, 2008, as last amended September 2, 2015, which is incorporated herein by reference.

California Code of Regulations, title 13, section 1968.2. Malfunction and Diagnostic System Requirements – 2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines.

"(a) Purpose.

The purpose of this regulation is to reduce motor vehicle and motor vehicle engine emissions by establishing emission standards and other requirements for onboard diagnostic systems (OBD II systems) that are installed on 2004 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles and engines certified for sale in California. The OBD II systems, through the use of an onboard computer(s), shall monitor emission systems in-use for the actual life of the vehicle and shall be capable of detecting malfunctions of the monitored emission systems, illuminating a malfunction indicator light (MIL) to notify the vehicle operator of detected malfunctions, and storing fault codes identifying the detected malfunctions. The use and operation of OBD systems will ensure reductions in in-use motor vehicle and motor vehicle engine emissions through improvements of emission system durability and performance".

California Code of Regulations, title 13, section 2037. Defects Warranty Requirements for 1990 and Subsequent Model Passenger Cars, Light-Duty Trucks, Medium-Duty Vehicles, and Motor Vehicle Engines Used in Such Vehicles.

"(b) General Emissions Warranty Coverage.

The manufacturer of each motor vehicle or motor vehicle engine shall warrant to the ultimate purchaser and each subsequent purchaser that the vehicle or engine is:

- (1) Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board pursuant to its authority in chapters 1 and 2, part 5, division 26 of the Health and Safety Code; and
- (2) Free from defects in materials and workmanship which cause the failure of a warranted part to be identical in all material respects to the part as described in the vehicle or engine manufacturer's application for certification, including any defect in materials or workmanship which would cause the vehicle's on-board diagnostic malfunction indicator light to illuminate, for a period of three years or 50,000 miles, whichever first occurs; and
- (3) Free from defects in materials and workmanship which cause the failure of a warranted part described in section (c) below for seven years or 70,000 miles, whichever first occurs".

Code of Federal Regulations, Title 40, section 86.1809-01. Prohibition of defeat devices.

"(a) No new light-duty vehicle, light-duty truck, or complete heavy-duty vehicle shall be equipped with a defeat device".

Code of Federal Regulations, Title 40, section 86.1809-10. Prohibition of defeat devices.

"(a) No new light-duty vehicle, light-duty truck, medium-duty passenger vehicle, or complete heavy-duty vehicle shall be equipped with a defeat device".

Code of Federal Regulations, Title 40, section 86.1809-12. Prohibition of defeat devices.

- "(a) No new light-duty vehicle, light-duty truck, medium-duty passenger vehicle, or complete heavy-duty vehicle shall be equipped with a defeat device.
- (d) For vehicle designs designated by the Administrator to be investigated for possible defeat devices:
- (1) The manufacturer must show to the satisfaction of the Administrator that the vehicle design does not incorporate strategies that unnecessarily reduce

emission control effectiveness exhibited during the Federal Test Procedure... or Supplemental Federal Test procedure (FTP or SFTP) when the vehicle is operated under conditions that may reasonably be expected to be encountered in normal operation and use".

Code of Federal Regulations, Title 40, section 86.1822-01. Durability data vehicle selection.

"(a) Within each durability group, the vehicle configuration which is expected to generate the highest level of exhaust emission deterioration on candidate vehicles in use, considering all constituents, shall be selected as the durability data vehicle configuration. The manufacturer will use good engineering judgment in making this selection".

Code of Federal Regulations, Title 40, section 86.1823-08. Durability demonstration procedures for exhaust emissions.

"(b) Required durability demonstration. Manufacturers must conduct a durability demonstration for each durability group using a procedure specified in either paragraph (c), (d), or (e) of this section".

Code of Federal Regulations, Title 40, section 86.1828-01. Emission data vehicle section.

"(a) FTP and SFTP testing. Within each test group, the vehicle configuration shall be selected which is expected to be worst-case for exhaust emission compliance on candidate in-use vehicles, considering all exhaust emission constituents, all exhaust test procedures, and the potential impact of air conditioning on test results. The selected vehicle will include an air conditioning engine code unless the worst-case vehicle configuration selected is not available with air conditioning. This vehicle configuration will be used as the EDV calibration".

Code of Federal Regulations, Title 40, section 86.1829-01. Durability and emission testing requirements: waivers.

- "(a) Durability demonstration.(1) One durability demonstration is required for each durability group.
- (2) The configuration of the DDV is determined according to the provisions of § 86.1822–01.
- (3) The DDV shall be tested and accumulate service mileage according to the provisions of §§ 86.1831–01, 86.1823, 86.1824 and 86.1825. Small volume manufacturers and small volume test groups may optionally meet the requirements of § 86.1838–01.

- (b) Emissions demonstration—
- (1) FTP and SFTP Exhaust Testing—
- (i) Testing at low altitude. One EDV shall be tested in each test group for exhaust emissions using the FTP and SFTP test procedures of subpart B of this part and the HFET test procedure of subpart B of part 600 of this chapter. The configuration of the EDV will be determined under the provisions of § 86.1828–01 of this subpart.
- (ii) Testing at high altitude. For high-altitude exhaust emission compliance for each test group, the manufacturer shall follow one of the following two procedures:
- (A) One EDV shall be tested in each test group for exhaust emissions using the FTP test procedures of subpart B of this part. The configuration of the EDV will be determined under the provisions of § 86.1828–01; or
- (B) In lieu of testing vehicles according to the provisions of paragraph (b)(1)(ii)(A) of this section, a manufacturer may provide a statement in its application for certification that, based on the manufacturer's engineering evaluation of appropriate high-altitude emission testing, all light-duty vehicles, light-duty trucks, and complete heavy-duty vehicles comply with the emission standards at high altitude."

Code of Federal Regulations, Title 40, section 1829-15. Durability and emission testing requirements: waivers.

- "(a) One durability demonstration is required for each durability group. The configuration of the DDV is determined according to § 86.1822. The DDV shall be tested and accumulate service mileage according to the provisions of §§ 86.1823, 86.1824, 86.1825, and 86.1831. Small-volume manufacturers and small-volume test groups may optionally use the alternative durability provisions of § 86.1838.
- (b) The manufacturer must test EDVs as follows to demonstrate compliance with emission standards:
- (1) Test one EDV in each durability group using the test procedures in 40 CFR part 1066 to demonstrate compliance with cold temperature CO and NMHC exhaust emission standards.
- (2) Test one EDV in each test group using the FTP, SFTP, and HFET test procedures in 40 CFR part 1066 to demonstrate compliance with other exhaust emission standards.
- (3) Test one EDV in each evaporative/refueling family and evaporative/refueling emission control system combination using the test procedures in subpart B of this part to demonstrate compliance with evaporative and refueling emission standards."

Code of Federal Regulations, Title 40, section 86.1844-01. Information requirements: Application for certification and submittal of information upon request.

- "(d) Part 1 Application. Part 1 must contain the following items:
- (11) A list of all auxiliary emission control devices (AECD) installed on any applicable vehicles, including a justification for each AECD, the parameters they sense and control, a detailed justification of each AECD that results in a reduction in effectiveness of the emission control system, and rationale for why it is not a defeat device as defined under §86.1809. The following specific provisions apply for AECDs:
- (i) For any AECD uniquely used at high altitudes, EPA may request engineering emission data to quantify any emission impact and validity of the AECD.
- (ii) For any AECD uniquely used on multi-fuel vehicles when operated on fuels other than gasoline, EPA may request engineering emission data to quantify any emission impact and validity of the AECD.
- (g) The manufacturer shall provide the following information, or other information as deemed necessary by the Administrator, to the Agency upon written request by the Administrator. This includes any information, or explanations of such information specified in paragraphs (d), (e), and (f) of this section.
- (5) Any information necessary to demonstrate that no defeat devices are present on any vehicles covered by a certificate including, but not limited to, a description of the technology employed to control CO emissions at intermediate temperatures, as applicable."